Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A broadband ellipsometer for evaluating the characteristics of a sample comprising:

a broadband light source generating a polychromatic probe beam, said probe beam having UV and visible wavelengths;

an all-refractive focusing optical system for focusing the probe beam onto a spot on the surface of the sample, said all-refractive focusing optical system including ~~at least two lenses~~ three lenses that are transparent to both UV and visible wavelengths and with the refractive powers of the lenses being selected to reduce chromatic aberration of the optical system, the three lenses including two convex calcium fluoride lenses disposed on opposing sides of a concave fused silica lens, the optical system further including a lens mounting fixture for minimizing stress on the three lenses in order to minimize induced birefringence;

an analyzer system for monitoring a portion of the probe beam light reflected from the sample and generating output signals responsive thereto; and

a processor for evaluating characteristics of the sample based on the ~~generated~~ output signals.

2. (Currently Amended) An ellipsometer as recited in claim 1 wherein the probe beam spot on the surface of the sample has a diameter that is less than 5 mm ~~in diameter~~.

3. (Original) An ellipsometer as recited in claim 1 wherein the probe beam spot on the surface of the sample is less than 3mm in diameter.

4. (Original) An ellipsometer as recited in claim 1 wherein the focus shift over the range of wavelengths in the probe beam is less than five percent of the mean focal length of the optical system.

5. (Original) An ellipsometer as recited in claim 1 wherein the focus shift over the range of wavelengths in the probe beam is less than 2.5 percent of the mean focal length of the optical system.

6. (Original) An ellipsometer as recited in claim 1 wherein the analyzer system includes a detector and further including an imaging system for transmitting a portion of the probe beam light reflected from the sample to the detector.

7. (Original) An ellipsometer as recited in claim 6 wherein the portion of the probe beam transmitted by the imaging system corresponds to area on the sample less than 100 microns in diameter.

8. (Original) An ellipsometer as recited in claim 6 wherein the portion of the probe beam transmitted by the imaging system corresponds to area on the sample less than 60 microns in diameter.

9. (Original) An ellipsometer as recited in claim 6 wherein the imaging system includes an aperture between the sample and the detector.

10. (Original) An ellipsometer as recited in claim 1 wherein said probe beam has wavelength components spanning at least 500 nanometers.

11. (Original) An ellipsometer as recited in claim 1 wherein said probe beam has wavelength components spanning 200nm to 800nm.

Claims 12-15. (Canceled)

16. (Original) An ellipsometer as recited in claim 1 further including a polarizer and wherein the lenses are aligned such that the transverse stresses in the lenses are aligned with the optical axis of the polarizer.

17. (Currently Amended) An ellipsometer as recited in claim 1 wherein the processor ~~operate~~ operates to determine ~~the~~ a change in polarization state of the polychromatic probe beam ~~radiation~~ at a plurality of wavelengths to derive ellipsometric information.

18. (Original) An ellipsometer as recited in claim 17 wherein the analyzer system generates output signals corresponding to a plurality of wavelengths simultaneously.

19. (Currently Amended) A broadband ellipsometer for evaluating the characteristics of a sample, comprising:

a broadband light source generating a polychromatic probe beam, said probe beam having UV and visible wavelengths having a range of at least 500nm;

an all-refractive focusing optical system for focusing the probe beam onto a spot on the surface of the sample, said spot having a diameter less than 5 mm, said all-refractive focusing optical system including ~~at least two~~ three lenses that are transparent to both UV and visible wavelengths and with the refractive powers of the lenses being selected to reduce chromatic aberration of the optical system such that the focal shift over the range of wavelengths is less than five percent of the mean focal length of the optical system, the three lenses including two convex calcium fluoride lenses disposed on opposing sides of a concave fused silica lens, the optical system further including a lens mounting fixture for minimizing stress on the three lenses in order to minimize induced birefringence;

an analyzer system for monitoring a portion of the probe beam ~~light~~ reflected from the sample and generating output signals responsive thereto; and

a processor for evaluating characteristics of the sample based on the ~~generated~~ output signals.

20. (Original) An ellipsometer as recited in claim 19 wherein the probe beam spot on the surface of the sample is less than 3mm in diameter.

21. (Original) An ellipsometer as recited in claim 19 herein the focus shift over the range of wavelengths in the probe beam is less than 2.5 percent of the mean focal length of the optical system.

22. (Original) An ellipsometer as recited in claim 19 wherein the analyzer system includes a detector and further including an imaging system for transmitting a portion of the probe beam light reflected from the sample to the detector.

23. (Original) An ellipsometer as recited in claim 22 wherein the portion of the probe beam transmitted by the imaging system corresponds to area on the sample less than 100 microns in diameter.

24. (Original) An ellipsometer as recited in claim 22 wherein the portion of the probe beam transmitted by the imaging system corresponds to area on the sample less than 60 microns in diameter.

25. (Original) An ellipsometer as recited in claim 22 wherein the imaging system includes an aperture between the sample and the detector.

26. (Original) An ellipsometer as recited in claim 19 wherein said probe beam has wavelength components spanning 200nm to 800nm.

Claims 27-28. (Canceled)

29. (Original) An ellipsometer as recited in claim 19 further including a polarizer and wherein the lenses are aligned such that the transverse stresses in the lenses are aligned with the optical axis of the polarizer.

30. (Currently Amended) An ellipsometer as recited in claim 19 wherein the analyzer system and the processor operate to determine ~~the~~ a change in polarization state of the probe beam ~~radiation~~ at a plurality of wavelengths to derive ellipsometric information.

31. (Original) An ellipsometer as recited in claim 30 wherein the analyzer system generates output signals corresponding to a plurality of wavelengths simultaneously.

Claim 32. (Canceled)

33. (Currently Amended) A broadband ellipsometer for evaluating the characteristics of a sample comprising:

a broadband light source generating a polychromatic probe beam, said probe beam having UV and visible wavelengths having a range of at least 500nm and including 200nm;

an all-refractive focusing optical system for focusing the probe beam onto a spot on the surface of the sample, said spot having a diameter less than 3mm, said all-refractive focusing optical system including ~~at least one lens consisting of calcium fluoride and at least one lens consisting of fused silica~~ two convex calcium fluoride lenses disposed on opposing sides of a concave fused silica lens, the refractive powers of the lenses being selected to reduce chromatic aberration of the optical system such that the focal shift over the range of wavelengths is less than five percent of the mean focal length of the optical system, the optical system further including a lens mounting fixture for minimizing stress on the three lenses in order to minimize induced birefringence;

an analyzer system including a detector for monitoring a portion of the probe beam light reflected from the sample and generating output signals responsive thereto, said output signals corresponding to a plurality of wavelengths simultaneously;

an imaging system including an aperture for transmitting a portion of the probe beam reflected from the sample to the detector and wherein the portion of the probe beam transmitted by the imaging system corresponds to area on the sample less than 100 microns in diameter; and

a processor for evaluating characteristics of the sample based on the generated output signals.

34. (Original) An ellipsometer as recited in claim 33 wherein the portion of the probe beam transmitted by the imaging system corresponds to area on the sample less than 60 microns in diameter.

35. (Original) An ellipsometer as recited in claim 33 wherein said probe beam has wavelength components spanning 200nm to 800nm.

36. (Original) An ellipsometer as recited in claim 33 further including a polarizer and wherein the lenses are aligned such that the transverse stresses in the lenses are aligned with the optical axis of the polarizer.

Claims 37-38. (Canceled)